



UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER OF PATENTS AND TRADEMARKS
Washington, D.C. 20231
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/820,274	03/28/2001	Michael S. Brunner	KCX-196.1(15778.10)	1690

22827 7590 03/31/2003

DORITY & MANNING, P.A.
POST OFFICE BOX 1449
GREENVILLE, SC 29602-1449

EXAMINER

MENON, KRISHNAN S

ART UNIT

PAPER NUMBER

1723

DATE MAILED: 03/31/2003

12

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/820,274

Applicant(s)

BRUNNER ET AL.

Examiner

Krishnan S Menon

Art Unit

1723

-- The MAILING DATE of this communication appears on the cover sheet with the corresponding address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 13 January 2003.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1,2,5-15,23 and 28-34 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1,2,5-15,23 and 28-34 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on _____ is: a) ☐ approved b) ☐ disapproved by the Examiner.
- If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

- 13) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
- a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449) Paper No(s) 8,11.
- 4) ☐ Interview Summary (PTO-413) Paper No(s). _____
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: _____

Art Unit: 1723

DETAILED ACTION

Claims 1,2,5-15,23,28-34 are pending. Claims 3,4,16-22 and 24-27 are cancelled.

Claim Rejections - 35 USC § 112

The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

Claim 28 recites the limitation "said pleats" in line 1. There is insufficient antecedent basis for this limitation in the claim with the cancellation of claim 26 from which it depends. For examination purpose, the examiner would assume that claim 28 now depends from claim 23, and assume that claim 23 has previously recited 'pleats'.

Claim Rejections - 35 USC § 102

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

Claims 23, 30 and 31 are rejected under 35 U.S.C. 102(e) as being clearly anticipated by Li et al (US 6,422,396 B1).

Li (396) teaches a multi-component liquid filter comprising (see figures) a chamber, first and second co-axial cylindrical elements (fig 3, 4) in fluid communication, one of the cylindrical elements having planar circumferential surface with liquid passing radially (col 5 lines 32-35), the other element having non-planar contoured surface with two or more layers of laminate filter media and liquid passing radially (see figures), and the different contaminants are removed by the filter elements as in instant claim(s) 23. The contoured filter is concentric and within the planar filter as in

Art Unit: 1723

instant claim(s) 30. Material comprises non-woven or micro-fiber glass (col 5 lines 1-10, 66-67) as in instant claim(s) 31.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

The factual inquiries set forth in *Graham v. John Deere Co.*, 383 U.S. 1, 148 USPQ 459 (1966), that are applied for establishing a background for determining obviousness under 35 U.S.C. 103(a) are summarized as follows:

1. Determining the scope and contents of the prior art.
 2. Ascertaining the differences between the prior art and the claims at issue.
 3. Resolving the level of ordinary skill in the pertinent art.
 4. Considering objective evidence present in the application indicating obviousness or nonobviousness.
1. Claims 1,2,5-12,14 and 15 are rejected under 35 U.S.C. 103(a) as being unpatentable over Li (396) in view of Pall (US 4,033,881).

Li (396) teaches a multi-component filter comprising first planar and second pleated filter elements, the pleated element having laminate with two or more layers (see figure, col 6 lines 60-67) as in instant claim(s) 1. First element is generally planar as in instant claim(s) 2. longitudinal pleats as in instant claim(s) 6 (see fig). Filters are contained in a chamber (see figures) as in instant claim(s) 7. Filters are cylindrical and coaxial with the chamber (see fig 1) as in instant claim(s) 8. First filter has constant radii, second filter has surface contours (pleats), liquid flows radially, different

Art Unit: 1723

contaminants removed by different elements as in instant claim(s) 9 (see figures, abstract). Filters are concentric with contoured filter inside the constant radius filter as in instant claim(s) 11 (figures). one of the filters has non-woven web (col 5 lines 1-10, 66-67) as in instant claim(s) 12.

Li (396) is silent on the pitch of the pleats as in instant claim(s) 1 and 5, surface contact area of the contoured filter being greater than surface area of the planar filter as in instant claim(s) 14 and 15, and planar filter being within the pleated filter as in instant claim(s) 10. It would be obvious to one of ordinary skill in the art at the time of invention that the pleated filter would have a larger surface area than a planar filter, and the question of how much larger would be a choice of design based on the dirt holding capacity of the filter (see col 4 lines 51-60 of Li 396). Li (396) even though does not specifically state planar filter within the pleated filter, does imply as such in col 5 lines 18-42, and in claim 19. It would be obvious to one of ordinary skill in the art at the time of invention that the pleated filter could be outside the planar filter for accommodating larger surface area for more dirt holding capacity. Regarding the pitch of the pleats, Pall (881) teaches pleated filter of laminated sheets (col 3 lines 37-49) with 0.45 in pleats (col 7-example 1). It would be obvious to one of ordinary skill in the art at the time of invention to choose a pleat pitch to provide sufficient surface area for obtaining the required dirt-holding capacity as taught by Li (col 4 lines 51-60) or Pall (col 59-67).

2. Claim 29 is rejected under 35 U.S.C. 103(a) as being unpatentable over Li (396) in view of Proulx et al. (US 5,798,049).

Li teaches all the elements of instant claim 23. Claim 29 adds the further limitation of a planar filter being within the pleated filter. Proulx teaches a planar filter within a pleated filter (fig 10; col 9 lines 55-65). It would be obvious to one of ordinary skill in the art at the time of invention

Art Unit: 1723

that the pleated filter could be outside the planar filter as taught by Proulx in the teaching of Li (396) for accommodating larger surface area for more dirt holding capacity.

3. Claim 32 is rejected under 35 U.S.C. 103(a) as being unpatentable over Li (396) in view of Muramatsu et al (US 5,092,990).

Li teaches all the elements of claim 23. Claim 32 adds the further limitation of a pleated filter containing activated carbon. Muramatsu teaches pleated filter with activated carbon in the pleats (col 4 lines 53-65). It would be obvious to one of ordinary skill in the art at the time of invention to use activated carbon in the teaching of Li (396) to adsorb dissolved organic matter from the fluids as taught by Muramatsu (see abstract) for improved water purification.

4. Claim 13 is rejected under 35 U.S.C. 103(a) as being unpatentable over Li (396) in view of Pall (US 4,033,881) as applied to claim 1 above, and further in view of Miramatsu (990).

Claim 13 adds the further limitation of use of activated carbon on a pleated filter. Miramatsu teaches using activated carbon in the pleated filter (col 4 lines 53-65). It would be obvious to one of ordinary skill in the art at the time of invention to use activated carbon to adsorb dissolved organic matter from the fluids as taught by Miramatsu (see abstract) in a fluid filter of Li in view of Pall, for improved water purification by removing dissolved organics.

5. Claim 28 is rejected under 35 U.S.C. 103(a) as being unpatentable over Li (396) in view of Pall (881).

Li teaches all the elements of claim 23. Claim 28 adds the further limitation of a pleat pitch. Pall teaches the pleat pitch in a laminated pleated filter (col 3 lines 37-49, with 0.45 in. pleats, col 7-

Art Unit: 1723

example 1). It would be obvious to one of ordinary skill in the art at the time of invention to add a pleat pitch to Li to provide sufficient surface area for obtaining the required dirt-holding capacity as taught by Li (col 4 lines 51-60) or Pall (col 59-67).

6. Claims 33 is rejected under 35 U.S.C. 103(a) as being unpatentable over Li (396) in view of Pall (US 4,033,881), and Muramatsu (990) as applied to claim 13 above and further in view of Carlson et al (US 6,475,340).

Claim 33 adds the further limitation of a charge modified non-woven web. Carlson teaches a charge modified non-woven web for pleated filters (see abstract; col 3 lines 7-30; col 4 lines 29-40). It would be obvious to one of ordinary skill in the art at the time of invention to use the teaching of Carlson for the non-woven web in the teaching of Li (396) in view of Pall (US 4,033,881) and Muramatsu (990) to have a filter with improved sorptive and ion exchange properties (see Carlson col 2 lines 53-56).

7. Claim 34 is rejected under 35 U.S.C. 103(a) as being unpatentable over Li (396) in view of Muramatsu et al (US 5,092,990) as in claim 32 above and further in view of Carlson (340).

Claim 34 has the further added limitation of a charge modified non-woven web. Carlson teaches a charge modified non-woven web for pleated filters (see abstract; col 3 lines 7-30; col 4 lines 29-40). It would be obvious to one of ordinary skill in the art at the time of invention to use the teaching of Carlson for the non-woven web in the teaching of Li (396) in view Muramatsu (990) to have a filter with improved sorptive and ion exchange properties (see Carlson col 2 lines 53-56).

Response to Arguments

Applicant's arguments with respect to pending claims have been considered but are moot in view of the new ground(s) of rejection.

Conclusion

Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Krishnan S Menon whose telephone number is 703-305-5999. The examiner can normally be reached on 8:00-4:30.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Wanda L Walker can be reached on 703-308-0457. The fax phone numbers for the organization where this application or proceeding is assigned are 703-872-9310 for regular communications and 703-872-9311 for After Final communications.

Art Unit: 1723

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is 703-308-0661.

Krishnan Menon
Patent Examiner
March 20, 2003


W. L. WALKER
SUPERVISORY PATENT EXAMINER
TECHNOLOGY CENTER 1700